

## 1 Identification

- **Product identifier**
  - *Product number* TF40
  - *Trade name:* **CLEAR PU INSULATOR**
    - *Application of the substance / the mixture* For professional use
- **Details of the supplier of the safety data sheet**
  - *Manufacturer/Supplier:*  
IVM Chemicals Srl  
Viale della Stazione 3 -27020 Parona (PV)Italy -Tel +39 038425441
  - *Information department:*  
Environmental Health and safety office  
hseoffice@ivmchemicals.com
  - *Emergency telephone number:*  
ChemTel Expert Assistance Hotline/SDS Fax Access by dialing 1-800-255-3924 or for International +1-813-248-0585.

## 2 Hazard(s) identification

- **Classification of the substance or mixture**

<p>Flammable Liquids 2</p> <p>Skin Irritation 2</p> <p>Eye Irritation 2A</p> <p>Toxic to Reproduction 2</p> <p>Specific Target Organ Toxicity - Single Exposure 3H336 May cause drowsiness or dizziness.</p> <p>Specific Target Organ Toxicity - Repeated Exposure 2</p>	<p>H225 Highly flammable liquid and vapor.</p> <p>H315 Causes skin irritation.</p> <p>H319 Causes serious eye irritation.</p> <p>H361 Suspected of damaging fertility or the unborn child.</p> <p>H373 May cause damage to the central nervous system and the hearing organs through prolonged or repeated exposure. Route of exposure: Oral and Inhalation.</p>
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### · Label elements

- *GHS label elements*  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- *Hazard pictograms*



GHS02 GHS07 GHS08

- *Signal word* Danger
- *Hazard-determining components of labeling:*  
toluene  
isobutyl acetate  
ethyl acetate  
butanone
- *Hazard statements*  
H225 Highly flammable liquid and vapor.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H361 Suspected of damaging fertility or the unborn child.  
H336 May cause drowsiness or dizziness.  
H373 May cause damage to the central nervous system and the hearing organs through prolonged or repeated exposure. Route of exposure: Oral and Inhalation.

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**Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Classification system:**

**NFPA ratings (scale 0 - 4)**



**HMIS-ratings (scale 0 - 4)**



**3 Composition/information on ingredients**

**Chemical characterization: Mixtures**

**Description:** Mixture: consisting of the following components.

**Dangerous components:**

108-88-3	toluene Flammable Liquids 2, H225 Toxic to Reproduction 2, H361; Specific Target Organ Toxicity - Repeated Exposure 2, H373; Aspiration Hazard 1, H304 Skin Irritation 2, H315; Specific Target Organ Toxicity - Single Exposure 3, H336 Aquatic Chronic 3, H412	20-24.99%
110-19-0	isobutyl acetate Flammable Liquids 2, H225 Specific Target Organ Toxicity - Single Exposure 3, H336	20-24.99%
141-78-6	ethyl acetate Flammable Liquids 2, H225 Eye Irritation 2A, H319; Specific Target Organ Toxicity - Single Exposure 3, H336	20-24.99%
78-93-3	butanone Flammable Liquids 2, H225 Eye Irritation 2A, H319; Specific Target Organ Toxicity - Single Exposure 3, H336	15-19.99%
131-57-7	oxybenzone Aquatic Acute 1, H400; Aquatic Chronic 2, H411	<0.25%

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#### 4 First-aid measures

· **Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

personal protective equipment for first aid responders is recommended. (please see section 8)

· **After inhalation:**

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

Take off immediately all contaminated clothing, include underwear and shoes (if necessary).

Rinse thoroughly with plenty of water for at least 20 minutes and take medical advise. If medical advise is needed have products container or label at hand.

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist , consult a doctor.

· **After swallowing:** Do not induce vomiting; immediately call for medical help.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed**

For symptoms and effects caused by substances, refer to Section 11.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

#### 5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

Alcohol resistant foam

Alcohol resistant foam, CO, powder, water spray/mist.

· **For safety reasons unsuitable extinguishing agents:**

Do not use a jet water stream as it may scatter and spread fire.

· **Special hazards arising from the substance or mixture**

During heating or in case of fire poisonous gases are produced.

In case of fire, the following can be released:

Nitrogen oxides (NOx)

Carbon monoxide (CO)

· **Advice for firefighters**

Cool by spraying with water the containers to prevent product decomposition and the development of substances potentially hazardous for health and also, in the case of closed containers exposed to flames to prevent explosions.

· **Protective equipment:**

Hardhat with visor, fireproof clothing, suitable gloves and if necessary respiratory protective device.

#### 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

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- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to Section 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· PAC-1:		
108-88-3	toluene	67 ppm
110-19-0	isobutyl acetate	450 ppm
141-78-6	ethyl acetate	1,200 ppm
78-93-3	butanone	200 ppm

· PAC-2:		
108-88-3	toluene	560 ppm
110-19-0	isobutyl acetate	1300* ppm
141-78-6	ethyl acetate	1,700 ppm
78-93-3	butanone	2700* ppm

· PAC-3:		
108-88-3	toluene	3700* ppm
110-19-0	isobutyl acetate	7500** ppm
141-78-6	ethyl acetate	10000** ppm
78-93-3	butanone	4000* ppm

## 7 Handling and storage

- **Handling:**
  - **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.  
Protect against electrostatic charges.  
Keep respiratory protective device available.  
Use explosion-proof apparatus / fittings and spark-proof tools.
  - **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.  
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
  - **Storage:**
    - **Requirements to be met by storerooms and receptacles:**  
Store in a cool, well-ventilated area, away from heat and sources of ignition  
Provide solvent resistant, sealed floor.  
Observe the label precautions, the expiration date for the use, if not indicated, is from delivery date of goods.  
In cases where there is no reported expiration date, it means that the product must be used within 8 months.
    - **Information about storage in one common storage facility:** Not required.

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- *Further information about storage conditions:*  
 Keep receptacle tightly sealed.  
 Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** Those typical of the product and the instructions in the data sheet if required.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
  - **Components with limit values that require monitoring at the workplace:**  
 The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.  
 At this time, the remaining constituent has no known exposure limits.

### 108-88-3 toluene

PEL	Long-term value: 200 ppm Ceiling limit value: 300; 500* ppm *10-min peak per 8-hr shift
REL	Short-term value: 560 mg/m , 150 ppm Long-term value: 375 mg/m , 100 ppm
TLV	Long-term value: 20 ppm BEI, OTO, A4

### 110-19-0 isobutyl acetate

PEL	Long-term value: 700 mg/m , 150 ppm
REL	Long-term value: 700 mg/m , 150 ppm
TLV	Short-term value: 150 ppm Long-term value: 50 ppm

### 141-78-6 ethyl acetate

PEL	Long-term value: 1400 mg/m , 400 ppm
REL	Long-term value: 1400 mg/m , 400 ppm
TLV	Long-term value: 400 ppm

### 78-93-3 butanone

PEL	Long-term value: 590 mg/m , 200 ppm
REL	Short-term value: 885 mg/m , 300 ppm Long-term value: 590 mg/m , 200 ppm
TLV	Short-term value: 300 ppm Long-term value: 200 ppm BEI

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· **Ingredients with biological limit values:**

**108-88-3 toluene**

BEI	0.02 mg/L Medium: blood Time: prior to last shift of workweek Parameter: Toluene
	0.03 mg/L Medium: urine Time: end of shift Parameter: Toluene
	0.3 mg/g creatinine Medium: urine Time: end of shift Parameter: o-Cresol with hydrolysis (background)

**78-93-3 butanone**

BEI	2 mg/L Medium: urine Time: end of shift Parameter: Methyl ethyl ketone (nonspecific)
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· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Avoid contact with the eyes and skin.
- Pregnant women should strictly avoid inhalation or skin contact.

· **Breathing equipment:**

Short term filter device:



Suitable respiratory protective device recommended.

Filter A

· **Protection of hands:**



Protective gloves

Due to missing tests no recommendation to the glove material can be given for the product. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

The glove material has to be impermeable and resistant to the product .

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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- **Penetration time of glove material**  
 The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · General Information

##### · Appearance:

- **Form:** Fluid
- **Color:** According to product specification
- **Odor:** Characteristic
- **Odor threshold:** Not determined.

· **pH-value:** Mixture is non-polar/aprotic.

#### · Change in condition

- **Melting point/Melting range:** Undetermined.
- **Boiling point/Boiling range:** 77 °C (170.6 °F)

· **Flash point:** -4 °C (24.8 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 405 °C (761 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

#### · Explosion limits:

- **Lower:** 1.2 Vol %
- **Upper:** 11.5 Vol %

· **Vapor pressure at 20 °C (68 °F):** 105 hPa (78.8 mm Hg)

· **Density (+/- 0,03) at 20 °C (68 °F):** 0.919 g/cm (7.669 lbs/gal)

- **Relative density** Not determined.
- **Vapor density** Not determined.
- **Evaporation rate** Not determined.

#### · Solubility in / Miscibility with

· **Water:** Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

#### · Viscosity:

- **Dynamic:** Not determined.
- **Kinematic at 20 °C (68 °F):** 25 s (ISO 6 mm)

· **Oxidising properties:** N.A.

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· <b>Solvent content:</b>		
· <b>VOC content:</b>	83.30 %	
	765.5 g/l / 6.39 lb/gal	
· <b>Solids content:</b>		16.7 %
· <b>Other information (HAPS)</b>		
108-88-3	toluene	20-24.99%
· <b>Other information</b>		No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** typical of the product as indicated in the data sheet
- **Chemical stability** The product is stable in normal conditions of storage and use recommended
  - **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions** Vapours may form explosive mixtures with air
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** Acids, alkalis and oxidizing agents
- **Hazardous decomposition products:**  
in case of possible formation of combustion:  
Carbon monoxide and carbon dioxide

## 11 Toxicological information

- **Information on toxicological effects**
  - **Acute toxicity:**

· <b>LD/LC50 values that are relevant for classification:</b>		
<b>108-88-3 toluene</b>		
Oral	LD50	5,000 mg/kg (mouse)
Dermal	LD50	12,124 mg/kg (rabbit)
Inhalative	LC50/4 h	25.7 mg/l (mouse)
<b>110-19-0 isobutyl acetate</b>		
Oral	LD50	13,400 mg/kg (mouse)
Dermal	LD50	17,401 mg/kg (rabbit)
Inhalative	LC50/4 h	31 mg/l (mouse)
<b>141-78-6 ethyl acetate</b>		
Oral	LD50	4,934 mg/kg (rabbit)
Dermal	LD50	20,001 mg/kg (rabbit)
Inhalative	LC50/4 h	1,600 mg/l (mouse)
	LC0	22.6 ppm (mouse)
<b>78-93-3 butanone</b>		
Oral	LD50	2,001 mg/kg (mouse)
Dermal	LD50	5,001 mg/kg (rabbit)
Inhalative	LC50/4 h	21 mg/l (mouse)
<b>131-57-7 oxybenzone</b>		
Oral	LD50	7,400 mg/kg (mouse)

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- **Primary irritant effect:**
  - *on the skin:* Irritant to skin and mucous membranes.
  - *on the eye:* Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
  - Irritant
  - Causes skin irritation.
  - Causes serious eye irritation.
  - Suspected of damaging fertility or the unborn child.
  - May cause drowsiness or dizziness.
  - May cause damage to the central nervous system and the hearing organs through prolonged or repeated exposure. Route of exposure: Oral and Inhalation.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer - Cl. 1 and 2)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

## 12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

**108-88-3 toluene**

EC50	134 mg/l (algae) (96 h)
	3.78 mg/l (daphnia) (48 h)
LC50 (96h)	5.5 mg/l (Fish)

**110-19-0 isobutyl acetate**

EC50	370 mg/l (algae) (72 h)
	25 mg/l (daphnia)
LC50 (96h)	17 mg/l (Fish)

**141-78-6 ethyl acetate**

EC50	165 mg/l (daphnia) (48 h)
LC50 (96h)	230 mg/l (Fish)

**78-93-3 butanone**

EC50	2,029 mg/l (algae) (96 h)
	308 mg/l (daphnia) (48 h)
LC50 (96h)	2,993 mg/l (Fish)

- **Persistence and degradability** No further relevant information available.

- **Substances Easily biodegradable**

108-88-3	toluene	.
110-19-0	isobutyl acetate	.
141-78-6	ethyl acetate	.
78-93-3	butanone	.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

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- *Mobility in soil* No further relevant information available.
- **Additional ecological information:**
  - *General notes:*
    - Water hazard class 2 (Self-assessment): hazardous for water
    - Do not allow product to reach ground water, water course or sewage system.
    - Danger to drinking water if even small quantities leak into the ground.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
  - *Recommendation:*
    - Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
    - Hand over to hazardous waste disposers.
    - Dispose of contents and container in accordance with local state and federal regulations.
- **Uncleaned packagings:**
  - *Recommendation:* Disposal must be made according to official regulations.


### 14 Transport information

- **UN-Number**
  - *DOT, IMDG, IATA* UN1263
  - *Note* Check viscosity and flash point at section 9
- **UN proper shipping name**
  - *DOT* Paint
  - *IMDG, IATA* PAINT
- **Transport hazard class(es)**
  - *DOT*



FLAMMABLE LIQUID  
3

    - *Class* 3 Flammable liquids
    - *Label* 3
    - *Class* 3 Flammable liquids
    - *Label* 3
  - *IMDG, IATA*



FLAMMABLE LIQUID  
3

    - *Class* 3 Flammable liquids
    - *Label* 3
- **Packing group**
  - *DOT, IMDG, IATA* II

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· <b>Environmental hazards:</b>	
· <i>Marine pollutant:</i>	No
· <b>Special precautions for user</b> Warning: Flammable liquids	
· <i>Hazard identification number (Kemler code):</i>	33
· <i>EMS Number:</i>	F-E, S-E
· <i>Stowage Category</i>	B
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> Not applicable.	
· <b>Transport/Additional information:</b>	
· <b>IMDG</b>	
· <i>Limited quantities (LQ)</i>	5L
· <i>Excepted quantities (EQ)</i>	Code: E2
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b> UN 1263 PAINT, 3, II	

## 15 Regulatory information

### · Safety, health and environmental regulations/legislation specific for the substance or mixture

Requirements of Federal Register

· *Various regulations*

## · SARA

· *Section 355 (extremely hazardous substances):*

None of the ingredients is listed.

· *Section 313 (Specific toxic chemical listings) :*

108-88-3	toluene	20-24.99%
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· *TSCA (Toxic Substances Control Act):*

All components have the value ACTIVE.

· *Hazardous Air Pollutants*

108-88-3	toluene
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· *Proposition 65*· *Chemicals known to cause cancer:*

None of the ingredients is listed.

· *Chemicals known to cause reproductive toxicity for females:*

None of the ingredients is listed.

· *Chemicals known to cause reproductive toxicity for males:*

None of the ingredients is listed.

· *Chemicals known to cause developmental toxicity:*

108-88-3	toluene	20-24.99%
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· **Carcinogenic categories**· **EPA (Environmental Protection Agency)**

108-88-3	toluene	II	20-24.99%
78-93-3	butanone	I	15-19.99%

· **TLV (Threshold Limit Value)**

108-88-3	toluene	A4
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· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **National regulations:**

The product is subject to be labeled according with the prevailing version of the regulations on hazardous substances.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** IVM Chemicals Srl

- **Contact:** See emergency phone

- **Date of preparation / last revision** 09/07/2022 / 73

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety &amp; Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Flammable Liquids 2: Flammable liquids . Category 2

Skin Irritation 2: Skin corrosion/irritation . Category 2

Eye Irritation 2A: Serious eye damage/eye irritation . Category 2A

Toxic to Reproduction 2: Reproductive toxicity . Category 2

Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) . Category 3

Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) . Category 2

Aspiration Hazard 1: Aspiration hazard . Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard . Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard . Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard . Category 3

· **Sources**

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL and following amendments

Agency ECHA web site

INRS Fiche Toxicologique

IARC International agency for research on cancer

- **\* Data compared to the previous version altered.**